

AVIATION

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APRIL 7, 1924

Issued Weekly

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VOLUME
XVI

SPECIAL FEATURES

NUMBER
14

CHARTING AMERICA'S AIRWAYS
DESCRIPTION OF XS1 NAVAL PLANE
ORGANIZATION POLICY OF THE N.A.A.
FURTHER NOTES ON THE DESIGN OF WING SPARS

GARDNER PUBLISHING CO., Inc.
HIGHLAND, N. Y.
225 FOURTH AVENUE, NEW YORK

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under Act of March 3, 1879.

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This is one of the four Douglas Cruisers used in the "Round the World" Flight. It has a normal maximum speed of 100 miles an hour at a level plane, and 100 miles an hour, at a 45° climb.

APRIL 7, 1924

AVIATION

VOL. XVI, NO. 14

Published every Monday

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DAYTON, OHIO,

OCTOBER 2-3-4

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AVIATION

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No 14

THROUGH the entire history of aviation over a period of 20 years the Wright organization has maintained its high position.

Its leadership has been soundly built upon extensive research and intelligent engineering development, although its experience includes the manufacture of aeronautical equipment in extremely large quantities.

The Wright organization, ever mindful of its first achievement—the art of flying—continues to contribute each year its best ability and engineering experience to the advancement of flying.

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Many ships equipped with Wright Air Control Engines flying in formation over San Diego, California

Air Power

BARELY has the fundamental axiom of Air Power been more fully stated than in a speech made by Lord Lansdowne in the House of Lords on March 4, when he said:

The value of an Air Force must be measured by the strength of its Independent Air Organization. We must have airplanes to meet the Navy and supplies to cooperate with the Army, but the effective strength of a country in the air must be measured and determined by the size and efficiency of its Independent Air Force.

Here we have the whole question of air power in a nutshell. It is to become the habit of every people to use the term Air Force rather loosely. High ranking Army and Navy officers who have no direct connection with the Air Service have gone and again gone on record that they "believe in Air Power," with the mental reservation "inasmuch as it can help the Army or the Navy," as the case may be. This mental attitude should not be taken as an excuse, for it is an extremely common trait. After all, if such an officer would believe in Air Power as close students of the subject do, namely, that it is the first line of defense by virtue of its rapidity and penetrating ability with which it can strike, then they could not logically help denying the usefulness of this premise. And that is, that Air Power, in other words the Independent Air Force, will secure or have adequate the means and means of the world to a position of secondary importance in national defense and leave to them the work of supporting up such scattered surface positions as the Independent Air Force may have failed to wipe out in its operations. That such prospects cannot appear offering to a man who has spent the greater part of his life in a Service which he was taught to believe to be the first line of defense of the Nation is therefore not natural. Hence he does not feel particularly keen on having the Independent striking ability of Air Power supplanted, and when he speaks of what he has against in the natural and only permissible function of military aircraft, he can not at times only view point, ability to assist the Army or the Navy against hostile aircraft, he it is observation, bombing or fighting work. In other words, he assigns abroad a purely passive role, when the true function of Air Power is essentially active and not passive.

Lord Lansdowne's saying that Air Power must be measured by the strength of its Independent Air Organization should call every thoughtful American's attention to the fact that the United States neither has such a force in being, nor is there anything being done to create one.

While the Army and Navy Air Services will this year receive about \$12,000,000 each from Congress, the British air ministries for the coming fiscal year show an increase of \$12,000,000 over last year, the total for 1923-24 being of \$12,000,000. When autocosts were expressed in the

House of Commons at this increase of war expenditures by a Labor government, William Lamb, Under Secretary of State for Air, made the following significant reply:

"We are not becoming armaments. We are merely adjusting them to between the three Services (Army, Navy and Air Force), but the net result is a considerable decrease in war expenditures during the coming year."

In other words, Great Britain will spend more money this year on her Air Force, and less on her Army and Navy, than last year, all on the principle that the Air Force is becoming increasingly important, and Navy and Army decreasingly important, for national defense. Would that the voting on the wall were seen in Washington.

The Honor of the House

FIRMS have a reputation as real as people, and just as valuable. The mere name of certain firms is such a guarantee of service and quality that work turned out by them can absolutely be trusted. And certain manufacturers realize that the Honor of the House is their most valued possession. This spirit of pride in the work of a firm should be fostered in every possible way.

The enormous expansion of the aircraft industry during the war, with the opening up of new firms, the expansion of old companies which practically changed their character, the replacement of unknown and inexperienced workmen, and the purchase of materials wherever they were available—all this necessitated a somewhat new system of aircraft inspection in the part of the Government.

Conditions have radically changed since the war, but the system of inspection has not. With the industry practically shut down, it is now possible to speak of the inspection in the past years as there is no work to inspect in most factories.

Since the American war inspection seemed to find that their mission was accomplished if they reported a certain amount of work. Their general attitude was one of criticism of minute detail. They had not the vision, experience or viewpoint that would make them be of real help to the manufacturer in bettering their product. Their inspection of duty was such as to make them a thorn in the flesh of the conscientious manufacturer and to make others feel that it they could "get by" the inspector they had done enough.

We hear that there is to be a change in the policy of aircraft inspection. No time could be more opportune than the present. What is needed are inspectors of sufficient calibre and experience to realize that they should give the industry constructive help rather than make themselves a reputation and show their power by petty observation and objections. The manufacturer should be judged by the result of his product under service conditions. If the industry is working for the Honor of the House, it will make a better product than when its efforts are expended in pleasing an inspector.

Charting America's Airways

Thousands of Miles of Flying Routes and More than 100 Airports
Surveyed by Army Air Service

The situation of one section—and of points, in particular—has repeatedly been called to the attention of the Army Air Service in connection with the proposed national airway system of the United States, and in making the information available in all parts through the medium of the "Aeronautical Bulletin" which the Airway Section publishes.

The map reproduced below, which gives a good idea of this work, will be found of considerable use by all pilots. It shows the routes surveyed to date by the Airway Section with the numbers designating the particular Bulletin in which complete information is given for each section of the airways. Thus, for instance, if a pilot desires "flying directions" for the shortest survey from Cleveland, Ohio, to Erie, Pa., all he has to do is to read 5 cents in the *Goodyear* department of *Encounters*, Government Printing Office, Washington, D. C., and risk less for Aeronautical Bulletin No. 110. The information this bulletin contains is reproduced below.

CLEVELAND, OHIO, TO ERIE, PA.

Compass course, 92°; magnetic declination, 2°

6 Leaving airport field at the Marine Factory, follow the New York Central Railroad leaving slightly to the right about 5'. Enter there is about three-fourths mile to the left at Cleveland.

22 Railroad crossing in Y. Keep railroad on left.

23 Chicago River, where crosses river at six concrete bridge.

23 Cross Baltimore & Ohio Railroad, keeping Pensacola on your left about 2 miles and Chardon 7 miles on the right. Small lake 1 mile southeast of Chardon. Service from near north-south and east-west. Country is flat, with much fields and lots of wooded areas.

23 Euclidville is on the New York Central Railroad. Most railroad here and parallel it about three-fourths of a mile to the south to Ashkela.

23 Ashkela, junction point of three railroads about 2 miles south. Train extends to lake shore and is distinguished by the large red docks and a locomotive.

23 Concrete parallel with railroad to Conestoga. Conestoga has breakwater, but not the docks, as at Ashkela.

Railroad runs east and west through the town. Concrete and bridge under construction southeast corner of town, small island harbor and one dock, with one large pier, where cruise, easily discernible. Follow the two railroads that parallel the lake to Erie or follow the lake shore (like them a straight line).

23 Erie, Pa., distinguished by large work of land survey. Large harbor with mouth to the east. Country is still flat, some large fields, almost everything except woodlands is under cultivation. Elementary buildings can easily be made anywhere on roads. No marked fields. Landing field southwest edge of town 300 yards south of waterworks reservoir. Field is about 500 yards by 400 yards and is easily set up by shallow wagon tracks. Paved road and bridge across in southwest side, where police on west and buildings on north side of field. No aviation gas.

ERIE, PA., TO CLEVELAND, OHIO

Compass course, 282°; magnetic declination, 2°

23 Leave flying field at Erie, Pa., and set your course west-southwest. Perceive lake to be on your right. Perceive lake is a large work of land survey. The course possible to the two railroads, keeping them on the right. Country is flat throughout this part of the course.

affording many good landing places. Following railroads for a distance of 43 miles, pass over the town of Conestoga. Conestoga has an island harbor with two water and one dock. Railroad runs through center of town.

23 Concrete bridge under construction on southern corner of town. 23 Following railroads, Ashkela is the next town of any size. Ashkela lies to the east of the junction of three railroads, but is more clearly distinguished by large red docks and locomotive.

23 Ashkela extends close to the lake shore.

23 Holding course, pick up Pensacola about 2 miles to the left, and Chardon will be seen about 7 miles to the right. Chardon will be recognized by a small lake about 1 mile southeast of the town. Cross Baltimore & Ohio Railroad here. Pass over Chicago River, recognizable by its concrete barrier bridge. Holding course, pick up the Y of the railroads and follow the New York Central.

23 Railroad into Cleveland to the Glen L. Martin Field. The Glen L. Martin Field lies southwest of the city and 2 miles south of the Kinsland South Ferry, which may be used as a landmark to the field. The field is also used as a factory site by the Glen L. Martin factory and is thus an unusual field. The main hangar is at the southwest corner, house on the northeast, and the Glen L. Martin factory on the northeast corner. American supplies available on the field.

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Sketch maps of Camp Pike, Little Silver, N. J. (actual not published in the Aeronautical Bulletin of the Airway Section, U. S. Army Air Service)



Reference map of the United States showing the flying routes charted by the Airway Section of the Army Air Service. The numbers indicate the Aeronautical Bulletin in which the given airway is described.

Pilots are further reminded that the Airway Section also publishes in the "Aeronautical Bulletin" complete information on landing facilities at the United States together with sketch maps showing the location of the field with reference to the nearest town and the general layout of the field. The maps at Camp Pike which are reproduced herewith give a good idea of the value of this information.

Over 100 of these airport information bulletins have so far been published by the Airway Section, and many more are in preparation and will be issued as soon as they are ready.

Following is an alphabetical arrangement of these bulletins, together with the number of the Bulletin referring to a given airport.

- Bulletins**
Baltimore, Roberts Field (79).
Baltimore, Randall Field (30).
Boston
Boston, Norfolk Airfield (81).
Boston, State Fair Annex (89).
Boston, Municipal Field (92).
Boston, Municipal Field (92).
California
San Diego, Rockwell Field (48).
San Francisco, Crissy Field (10).
Colorado Springs, Pease Ranch (76).
Denver, Stapleton Field (11).
Connecticut
Bridgeport, H-12 Field (84).
Portland, Municipal Field (12).
Florida
Miami, Landing Field (74).
Miami, Proposed Municipal Field (34).
Georgia
Atlanta, Southern Field (67).
Wilmington, Municipal Field (73).
Illinois
Baltimore, Scott Field (37).

- Chicago, Air Mail Field (48).
Cincinnati, Municipal Field (78).
Cincinnati, Greater Field (34).
Idaho
Fort Douglas, Harrison, Schott Field (89).
Kokomo, Kokomo Aviation Field (20).
Vincennes, Municipal Field (53).
Iowa
Des Moines, Commercial Field (15).
Iowa City, Air Mail Field (7).
Kansas
Fort Riley, Marshall Field (6).
Kentucky
Louisville, Bowman Field (85).
Maryland
Aberdeen, Aberdeen-Potomac Ground (10).
Baltimore, Logan Field (7).
Cumberland, Government Field (62).
Burgessville, Emergency Field (85).
Massachusetts
Boston, Boston Airport (60).
Fitchburg, Emergency Field (72).
Michigan
Ann Arbor, Landing Field, Camp Center (77).
Mount Clemens, Detroit (47).
Minnesota
Minneapolis, Speedway Field (82).
Missouri
Kansas City, Richards Field (42).
St. Joseph, Municipal Field (29).
Springfield, Municipal Field (38).
Montana
Coeur d'Alene, Fair Grounds (88).
Billings, Landing Field (51).
Nebraska
Lincoln, Lincoln Airport (76).
North Platte, Air Mail Field (39).
Omaha, Air Mail Field (17).

New Jersey
 Kearney, Airmotive Foundation (48).
 Lakehurst, Naval Air Station (32).
 Little Silver, Camp Val (4).
 Pine Valley, Commercial Field (35).

Nebraska
 Kearney, Calumet Aviation Field (32).
 Elmo, Air Mail Field (71).
 Las Vegas, Municipal Field (59).
 Reed, Municipal Field (55).

New Mexico
 Santa Fe, Emergency (102).

New York
 Albany, Queen Roosevelt Field (57).
 Buffalo, Naval Air Field (84).
 Buffalo, State Field (54).
 Flushing, Flushing Ground (58).
 Rochester, Bridenbark Field (31).
 North Carolina
 Fort Bragg, Pope Field (71).
 South Carolina
 Farris, Emergency Field (53).

Ohio
 Akron, State Field (51).
 Dayton, Air Mail Field (49).
 Cleveland, Glenn L. Martin (10).
 Columbus, Norton (32).
 Columbus, Oakland Stock Farm (37).
 Dayton, McCook (45).
 North Madison, Emergency (81).

Oklahoma
 Chickasha, Emergency Field (46).
 Muskogee, Hot Day Field (65).
 Tulsa, Commercial (30).

Oregon
 Medford, Naval Barker Field (40).
 Portland, Reed Field (196).

Pennsylvania
 Harrisburg, Weaver Aircraft Corps. (44).
 Harrisburg, Municipal Field (44).

South Carolina
 Beaufort, Landing Field, Marine Aero Barracks (48).

South Dakota
 Huron, Myers Field (31).

Tennessee
 Chattanooga, Municipal (85).
 Nashville, Clark Wood Field (14).

Texas
 Brownsville, Fort Clark Field (33).
 El Paso, Army A. R. Field (13).
 Houston, Edwards (47).
 San Antonio, Brown Field (14).
 San Antonio, Kelly Field (22).
 Waco, Emergency, Fort Hood Station (34).

Utah
 Salt Lake City, Woodward Field (18).

Vermont
 Springfield, Open Ridge Field (84).

Virginia
 Columbia, Private Field (10).
 Fort Belvoir, Stanton Field (86).
 Hampton, Langley Field (23).
 Hampton Roads, Naval Air Station (97).
 Quantico, Brown Field (21).

Washington
 Seattle, Commercial (62).

West Virginia
 Charleston, Municipal Field (40).
 Monacaohish, Langer Field (1).

Wisconsin
 Milwaukee, Hamilton Co. Field (47).

Wyoming
 Cheyenne, Air Mail Field (23).
 Rock Springs, Air Mail Field (46).
 Sheridan, Municipal (30).

The above names have just been completed by a number of Bulletin sources which give for each State a summary of the information on all landing fields where insufficient data are

available for the publication of an individual bulletin in detail with necessary information on these facilities covered by subsectional bulletins.

Capt. Randolph E. Wright, A-8, is in charge of the Airways Section, which is a sub-division of the Training and War Plans Division in the Office of the Chief of Air Service. The infighting enthusiasm which this office displays and commensurate to all those engaged in Airways work assistance for the remarkable results obtained in a few years' time. Wright's slender appearance. While the work of changing American's airports in the time completed, there already exists a volume of collection on profitable flying routes which will prove of the utmost value to commercial aviation in the State to the Air Service.

XSI Naval Seaplane

The Cox-Kleins Model XSI plane is a recent production designed and built for the United States Navy. This is a small twin boat seaplane for short distance and reconnaissance work.



Cox-Kleins XSI seaplane used plane (Wright Lt. capt.), built for the U. S. Navy.

more service, capable of taking off the deck of a vessel with the aid of a catapult and land from the water under its own power. The plane can be readily taken down and stowed in the deck of a vessel and under very interesting experiments have been conducted in connection with submarine work.

The fuselage is constructed of wooden lugs, struts and wire bracing. All wing struts are made of steel tubing and the left trim is carried in the pantoon by diagonal steel struts.

The pantoons are constructed of a series of spruce frames and bulkheads fastened together by means of dunnage blocks and rivets. The top and side planking is made of white pine, over which is laid cotton ducking treated with marine glue. The bottom is double diagonal planking of cedar.

The skidways are connected to the central skid by means of steel plate bulkhead and steel surfaces are braced to the fuselage by steel wires and are connected to the central skid by flexible cables. The stabilizer is adjustable on the ground.

The motor, a Wright L three-cylinder semi-closed model, is mounted on a plywood bulkhead. A system of steel cable bracing carries the loads directly into the fuselage keel. The motor can be started while the plane is afloat, with a hand crank by the pilot.

Performance

Full speed at sea level, full load 100 mi. per hr.
 Cruising speed 70 mi. per hr.
 Climb 10 mi. in 4 min.
 Range 100 mi. in 4 hr.
 Endurance 100 mi. in 4 hr.
 Rate of climb 100 ft. per sec.
 Altitude 10,000 ft.
 As soon as possible, the new Cox-Kleins, War Department, the Navy Department, the Foreign Office and the Commonwealth

Extension of Air Mail Services Planned

The Air Mail Service Sub-Committee of the Post Office Committee held its first session on the Kelly Bill authorizing it. Postmaster General is content for the carrying of mail by air and the Le Grande Bill authorizing the Postmaster to expand to operate air mail lines. Col. Paul Henderson, second Assistant Postmaster General, was the first speaker.

The Kelly Bill would authorize service companies carrying the mail and other cargo by air to the extent of the Kelly Bill to transport mail. The Le Grande Bill authorizes the Postmaster to operate lines such as the New York-San Francisco line, which at the present time is simply authorized from time to time in special appropriation bills. The hearings will be continued, as many requests have come from all parts of the United States from airplane mail service and airplane companies for an opportunity to testify as to the need for such service. It is also a very important part of the economy in the transportation of mail by air.

Congressman F. Le Grande, Chairman of the Sub-Committee, made the following statement:

American World Flight

The start of May Frederick L. Matthe's first World Airways on their globe crossing flight from Seattle will probably be somewhat delayed on account of bad weather. The expedition intended to top off from Seattle for Paris in April, it is thought, may be postponed. The expedition is as it is taking up with its schedule which called for arrival at Paris April 10, and at Cordoba, Alaska—775 mi. away—on April 12. Latest advice is to the effect that the flight of the World Airways will be delayed by a week, by previous route, and that the last date of start from Seattle has been postponed to April 2 or 3.

The engine of Plane No. 1, Lieutenant Wright's ship, has been thoroughly overhauled. A new Liberty engine was installed in Plane No. 2, Lieutenant Wright's ship, and the engine was made to the wings of Lieutenant Nelson's ship (No. 4).

In the meantime elaborate preparations are being made to meet the safety of the expedition on its hazardous flight from Alaska to Japan, on which the longest over-water leg covers 4,000 mi. from Chicago on the Island of Atsu to Kurehara Bay on Honshu in the Kurehara Group.

Coast Guard Assails World Fliers

The U. S. Coast Guard, which is closely cooperating with the Army Air Service in the World Flight, is assailing two Coast Guard sailors, who are alleged to be in the line of the flight on the coast of Alaska.

In the matter of transporting supplies for the world flight, the Coast Guard has received a warning from the Navy. The Coast Guard sailors, who are alleged to be in the line of the flight on the coast of Alaska, were told that the Navy was not to be used for the purpose. The Coast Guard is assailing two Coast Guard sailors, who are alleged to be in the line of the flight on the coast of Alaska, were told that the Navy was not to be used for the purpose. The Coast Guard is assailing two Coast Guard sailors, who are alleged to be in the line of the flight on the coast of Alaska, were told that the Navy was not to be used for the purpose.

The spirited cooperation of the Coast Guard in distributing supplies for the World Flight to points in Alaska and the Aleutian Islands and in protecting the passage of the fleet across the Pacific Ocean will be one of the most important factors in the success of this expedition.

Japanese Assistance

A communication from the Japanese War Department has just been received by General Hasegawa, the Japanese Navy Attaché, indicating that the Japanese War Department will project every assistance and expedient to the expedition and plans for meeting, assisting and maintaining the pilots during their progress through Japan.

As soon as possible, the new Cox-Kleins, War Department, the Navy Department, the Foreign Office and the Commonwealth

"The purpose of the Sub-Committee is to render real service to the air industry of the country. Congressmen William W. Grant, Chairman of the Post Office Committee, is largely interested and has given a great deal of latitude to his Sub-Committee.

"I want to make it clear that the purpose of this Sub-Committee is not to live in the shadows of the past, but to look forward to the future. The air industry of the country is being built by the aviation in the past and we are going straight ahead and do something real and constructive for the Government and the airplane industry of this country, and to indicate what will eventually be the greatest source of transportation in the world, namely air. I will set a date for the hearings as soon as we can get in touch with many of the people who have requested to be heard from all parts of the United States and give their testimony. I have the assurance of many of my colleagues in the House that the bill will have their support if reported out of Committee."

Department co-ordinated their plans for assisting the project and for aiding Lieutenant Smith, the Army Air Service Advance Officer, who went to Tokyo from Seattle to make all preliminary arrangements. The Japanese War Department appointed a special committee, under the Chief of Army Air Service, composed of seven Army Air Service officers, seven Naval Air Service officers (including the Chief of Naval Air Service), and representatives from the State and other departments. This committee is making all necessary arrangements for meeting, assisting and maintaining the American World Fliers.

The Japanese Navy is planning to have warships or destroyers in all harbors where the American pilots intend to stop and to stand by along the route for the purpose of rendering all possible aid in the event of forced landings or other emergencies.

Difficulties Ahead

The Japanese Navy Department has also authorized two American destroyers to proceed within the fortified zone of the Kurehara Islands to carry supplies for our World Flight. Two Japanese naval destroyers will be on hand and the destroyers will be used in guiding them through the straits between the islands. Two Japanese destroyers will accompany the American vessels.

Japanese officers who know their waters are great dangers ahead for vessels making the expedition, so account of the ice and fog prevalent during the entire month of April. The decision to send destroyers came from the fact that the ships would come from the coast of Japan and would be directed, on account of the risk involved in it, to proceed there will be near in the islands when the American destroyers arrive, and the temperatures will be below freezing. As the same time will have begun to move in from the north, it will be a serious matter of weather at night, making it difficult for the sailors to land.

The islands are virtually uninhabited except for a few Japanese fishermen. The Aleutian Islands enjoy a temperate climate at this season due to the warm currents which run north from the Philippines along Southern Japan and up to the Aleutian group, the Kuriles do not benefit by the current, and are somewhat exposed to a sudden and bitter change of weather in their flight from Alaska to Pannychia.

The U. S. Navy will also assist the World Flight along the Japanese and Chinese coasts.

British World Flight Starts

Amal crews and crews of "Best the Yanks" the British Head-of-World Flight started from the air station at Calcutta, England, at noon, March 25. Carrying Squadron Leader Stuart Maclean, pilot, Flying Officer Pendergast,

several pilot and navigators; and Sergeant Andrews, mechanic, the Vickers Vulture amphibian flying boat rose from the sea with a great roar of its 450 hp. Warner Lima and landed for the French coast, escorted by two amphibians and three air planes. The flight is entirely a private venture.

Just before the start Mackinnon received from the King's Secretary a telegram conveying the King's "best wishes for the success of the great enterprise on which you are embarking," and adding that the King would follow the progress of the flight with deep interest.

The heads of the Air Ministry were present to wish the aviators good speed on the first day of the flight.

The start was made in brilliant weather and the aviators reported to reach Lyons, France, the first stage of their flight, on short 6 hr., but the machines encountered thick fog at sea and the aviators were forced to descend at Harve after narrowly missing disaster at Kertel, where the cliffs suddenly appeared out of the fog only 50 yd. ahead.

On the following day the British fleet proceeded to Lyons, on the 27th they reached Civita Vecchia, Italy, and on the 28th they landed in Rome, 1890 mi. from their starting point, and at once started refueling the old planes, which had given them trouble over they left Lyons.

Mackinnon's next stops will be Brindisi, Italy, Athens, Greece, Cairo, Egypt, and Baghdad, India.

With the start of Mackinnon's flight it became known that an offer was made by the British to run the American fleet, and that it was refused.

Col. L. K. Brown of the British Royal Air Force, who in advance agent for Mackinnon's flight, conferred with Air Service officials in Washington, exchanged maps concerning the routes to be followed and proposed the run. In reply Maj. Gen. Mason, Jr. President of the Air Service, stated that the Americans are making the attempt to determine whether the fleet is possible, to lay out routes and to acquire suitable ships, and that for this reason he had no objection to instruct the American fleet to "speed up" in an effort to beat the British.

However, it is understood that whatever the Washington officials decide, the American fleet will not let the British challenge any supremacy. The American's intention is to fly the entire squadron of four planes around the globe, no matter how long it may take them.

It is understood that of the four British planes under it at all, it has a good chance of keeping a step ahead of the American "four-pack." For the reason that trouble to any one of the planes means a halt to the entire squadron. Reports, however, are not correct that a single plane, however well equipped, can do the distance and are still putting the odds on the American planes. The United States fleet under Major Martin are expected to take account to speed up as a result of the British challenge.

"Too Many Organizations"

A Letter from F. C. Wilcox

Editor, Aviator

Following a long controversy between the N.A.A. and the group of firms operating from Wallasey Field, Rotterdam, Inc., the firm having membership cards in the N.A.A. have all resigned from it.

The Rotterdam and Rotterdam firms feel that the N.A.A. is dominated by a group of men who have an axe to grind, and that many of the N.A.A. policies are detrimental to commercial firms, commercial flying field operators, and the smaller aircraft builders.

It is my opinion that the N.A.A. would appear in a better light if it dropped its expensive campaign to put out a "bulletin" and to support the legislative program, and confined its activities to the more purely scientific lines of its well advertised program.

The N.A.A. has been used in this controversy to the detriment of local industry. These organizations have a number of local pilots to the contrary, building methods the N.A.A. should have used to attempting to apply N.A.A. policies to our local commercial situation.

F. C. WILCOX

President, Wallasey Aero Co.
Rotterdam, N. Y. March 25, 1934

Mail Pilot Pearson's Last Message

Two letters written by aviation friends all over the world to "John in it" have been made public by Mrs. Kate Hyde-Pearson of Santa Monica, Calif., mother of Capt. Leonard Hyde-Pearson, United States War and Air and naval pilot, recently killed in the cockpit of a biplane, while carrying mail from New York to Cleveland.

The letters addressed "To My Beloved Brother John and Pilot," he said, "I am sorry to write you this way. I hope you will not be with a cheerful heart." One of the letters read: "I hope what small comfort I have made may be of use to the cause."

"When we try we are fools, they say. When we are dead we cannot talk back either. But every one in this wonderful aviation service is doing the world far more good than the police can appreciate. We risk our necks, we give our lives, we perform a service for the benefit of the world at large. They, thank you, are the ones who call us fools."

"Get stuck to it boys. I'm still very much with you all. See you all at Tokyo."

Captain Hyde-Pearson was injured in Cleveland on March 16. It was not until after his death that his associates learned he had been awarded the British Meritorious Service Cross and was a member of the Victoria Order.

LIGHT PLANES AND GLIDERS

Edited by Edmund T. Allen

The Status of the Light Plane—II

Four months ago, when the discussion about the light plane was started, the suggestions were met with indifference on the part of almost every one, save, perhaps, organization and the number of engineers that have been.

An offer in the technical branch of the Flying Service school, "What is the light plane for?" When he was told about the foreign competitors that had been held for the light plane, and about its accomplishments in the way of economy, speed, and usefulness, and even after he learned about the power the British Air Ministry had offered for the development of the light plane, and that the Ministry had placed orders for these machines for use as trainers in military aviation, this officer said, "Well, when I sign on the aircraft, I want some power behind me. I do not believe that an airplane with less than 200 hp. will ever be a success."

The representative of a great newspaper in the Middle West was immediately what he called the "same position on the aerial driver." "Well," he asked, "how are you going to hold a seat that you have the machine?" It was explained to him that the press conference was an influence in the determination of the type of light plane to be designed, and that prices and trophies were an inducement to aircraft makers and to private builders. His reply was that his paper would be very much interested (to the extent of \$2,000) if, when the could see the light plane available for the sale, they could not produce a better one before there was one home, he said, and he saw no reason for starting too early on the light plane.

But it was the second series of the first that was the worst affliction of the large. In one of them, the first series, he called to consider the proposal of a Light Plane Air Force and air-carrying use on the basis of a cylinder which had been prepared as a tentative plan by a group of experts. They had placed themselves in the hands of the Bureau since so to attract an unspecialized group, but before long the first series. However, some other matters were taken up first on this meeting was called. The light plane business was discussed in detail, as important, and the meeting was adjourned with an indefinite discussion of the cylinder and the discussion of the next had been delivered to an indefinite date.

The date is still indefinite, but the cylinder has recently been revised for use in the proposed Light Plane Air Force which may be announced shortly from Philadelphia.

Such are the vicissitudes of development progress in America. An engineer recently stated in an address on aviation that we were developing a more extensive interest in different phases of aviation. It is to be hoped that this is true. It will at least serve to broaden out the factor that has kept us from developing a commercial aviation in this country. That factor is our national tendency to postpone too soon. This tendency has prevented a large conception of the nature and of the possibilities of the proposed flying class. We have been too much too much, and a modification of the war machine for the purpose of carrying mail. That is the major part of aviation aviation. Many have opportunities to meet the special use of flight. But as just the idea of flying does not take upon the surplus as transportation which may develop directly into the trend of the train and the boat for taking him or his valuable quickly from city to city. And thus, having no doubt of the commercial possibilities pressing upon him, the aircraft designer looks over to his good angels, the War and the Navy Departments, to prepare him his problem.

And what was characteristic of the attitude in general, pertinent also to particular phases of our aviation. With the application of the glider spirit there was not a wide appreciation of the glider and of the significance in commercial

development. It was made to appear merely as a toy that sport, or, at one fantastic writer prophesied, as a future means for transportation from the top of his office building into the back yard next morning.

This was an offensive delusion. The item shows a certain practical element in such a perspective of aviation that



Changing the compressed-air motor of a model plane at the air experimental station at Romorantin, near Paris, France.

perhaps prove an adequate explanation for the effort required to create any considerable interest.

From the interest in soaring flight on the one hand, and in speed trials on the other, attention has now come to the plane of the light plane. Although the light plane has achieved the place with a certain popularity, it must still accommodate itself to the old school with eyes. "There's not so much good about it" and which covers the estimate of 200 hp. at the throttle.

In the general prospect of aviation the light plane is perhaps somewhat comparable to what the old school was in the history of automobile engineering. It was a marvelous vehicle when played alongside former means of transportation, but perhaps beside the time little record of today. For the aircraft designer the problem is not so simple, for he has to add to the weight of the machine the weight and aerodynamic efficiency. Aviation will pass from this stage when a better light plane regime is developed.

No fully adapted engine is now available. Among the motorcycle engines there are the Harley-Davidson with three cylinders, the "Sport" (two-cylinder horizontally opposed) but the light plane. It has two horizontally opposed cylinders, air-cooled, and have just under 100 cc. in displacement. Without transmission they weigh about 100 lb. and at peak speed develop about 36 hp. The Air Service has recently tested the only American aircraft engine that is directly available for the light plane. It has two horizontally opposed cylinders and is air-cooled. Its weight is 50 lb. and it develops 23 hp. at 2200 rpm. The Steel Products Engineering Co. of Springfield, Ohio, offers to use this engine at a reasonable price if an order for fifty of them is forthcoming. There may be

French Air Line Statistics

The French Committee of Aeronautical Propaganda has made public a report showing the activities of the different French air lines during the year 1933. It is stated that in the year 1933, 1,489 passengers were carried by the Air Union, there were 1,023 trips, in which 2,863 passengers, 563,148 lb. of freight and 1,247 lb. of mail were carried. On the Paris-Bordeaux service, operated by the same company, there were 227 trips, 3,489 passengers and 103,406 lb. of freight. On the Paris-Orléans service, operated by the same company, there were 227 trips, 3,489 passengers and 103,406 lb. of freight. On the Paris-Strasbourg-Paris-Warwick and the Paris-Franco-Varian Constatante service, both of which are operated by the Franco-Belgium Air Lines a total of 5,060 passengers, 214,708 lb. of freight and 6,047 lb. of mail was carried. These two services only operate from Feb. 15 to Nov. 15, while all the other French air lines operate the year around. On the Toulouse-Casablanca service, operated by the Lignes Aériennes, 1,023 passengers were carried during the year as well as 224,099 lb. of freight and 273,148 lb. of mail.

The airmail figures for the French commercial air services during 1933 are as follows: Total airmail, 2,194,000, passengers, 7,111, freight, 1,200,480 lb., airmail, 151,699 lb.

An Interesting Test

Just to see what would happen if a big passenger air liner was forced to alight in the English Channel, the Air Ministry will very soon be conducting an interesting experiment with one of the older planes.

On this occasion, a DH19, a biwing plane in flying condition and will be taken out with a small number of test passengers and their baggage. Then the Air Ministry's pilot will "put it down" in the sea. The pilot will be told to land on the water, low at first, then to rise a few feet, and the effect of a rough sea on the machine.

So far only one British commercial airplane has fallen in the Channel. That was four years ago, and the machine floated unharmed for a long time, but finally had to be sunk.

Strength of French Air Force

The French Chamber of Deputies on March 23 adopted the bill regarding the effective and organization of the French army. The bill prescribes more active measures, but as air force of 200 airplane squadrons and various balloon squadrons.

A bill now before the French parliament would set the strength of the French aerial arm at 3011 plane squadrons and an indefinite number of balloon squadrons.

With an allowance of 100 planes per squadron these squadrons would cost France a present-day sum of 2750 planes.

New Seaplane Altitude Record

According to press reports, Sud Leconte established a new world's altitude for seaplanes on March 11, last, when he reached a height of 5,890 meters. The performance, made at Mantes, near Paris, has been inaugurated by the Aero-Club of France.

Sud used for this flight the Symport-Delage plane shown in the accompanying illustration, which was for twin floats, as the standard machine on which he made the altitude record for land planes on Nov. 8, 1933.

The present altitude world record for seaplanes stands at 5,554 meters, and was made by Maurice Borel on Feb. 2, 1934, in the CAMS 30 flying boat which took up the French title on the last Schneider Cup race.

Rumors to Purchase Planes

The purchase of a number of airplanes by the Roumanian Government is under consideration. American manufacturers were asked to submit bids, which were to be opened on March 1. It was stated that a number of planes would be purchased for mail, or double that number would be purchased for delivery at subsequent periods, on payment being made in installments. It is the latter case the latter would be the object to install in Roumanian a factory for airplanes, with the collaboration of Roumanian capital and the utilization of existing installations in that country, says *Airline Commercial*. Louis E. Van Natta, Bucharest, in a report to the Department of Commerce.

First Japan-Made Fighting Plane

The first Japan-made fighting plane was recently completed by the Mitsubishi Aviation Works at Nagoya and shortly will be put through its tests.

British aviators and engineers have assisted in the establishment and operation of the plant at Nagoya, which the Japanese firm hopes to make its principal source of supply for fighting planes in the future.

The new fighting plane is equipped with a 450 hp. Napier-Lion engine, has a wing spread of 49 ft. and is armed with Lewis machine guns.

British Trip Carrying Planes

The British Air Ministry is said to be drawing up plans for the construction of troop carrying planes built entirely of metal and capable of carrying fifty fully equipped infantrymen. These planes are believed to be intended for use in the Middle East, and in particular in Mesopotamia (Iraq).

Two squadrons of troop carrying planes are already stationed in Iraq. They are equipped with Vickers Vimy four-place biplanes which are capable of carrying twenty-five soldiers.

UNITED STATES AIR FORCES

U. S. ARMY AIR SERVICE

A Remarkable Flight

When Lt. Leont E. B. Baskind stepped his DH seaplane into Mitchell Field at 5:30 p. m. on March 5, the Army Air Service had broken another of its own records.

The achievement was all the more remarkable when the unfavorable weather conditions are considered. When Lieutenant Baskind arrived at the field the air was still, and he reported that he had lost the bearing while at about the point where he had passed over Altona, Pa. In describing his trip he said that he was in 6,000 ft. immediately after leaving McCook Field and that he kept climbing with the clouds well below him. At 12,500 ft. to the north of Perth Amboy, N. J., he made down to get his bearings in fact that he was about twenty or so miles, and from that point on the far coasted his way as low as safety permitted.

Some idea of the feat that he had accomplished can be seen from the fact that Lieut. Col. R. A. Archer, accompanied by Capt. John B. Powers, M.C., while flying over the way from Bellingham to Mitchell Field, made two forced landings, the second of which was in a cemetery ten miles from Mitchell Field.

Lieutenant Baskind could be heard approaching the field only two minutes before he was in sight and it was only after the plane had landed that it was possible to identify it. In December 1934, he made the record by Lt. Leont Alexander Penner, made in January, 1935, Lieutenant Baskind also carried the greatest record and prior to his navigator, Capt. Bradley Jones, A. B. C. R. C.

While recognizing the feat of flying 575 mi. in 3 hr. 53 min., Mitchell Field reports that this same pilot and navigator be given another chance when weather conditions are more favorable.

Brooks Field Students Complete Primary Training

The weather being ideal for flying during the latter part of February and the first part of March, cadet students completed the primary flying course at Brooks Field, Tex., and were transferred to the Advanced Flying School at Kelly Field, via Capt. James D. McIntyre, Ordinance, Capt. Charles P. Heflinger, Ordnance, First Lieut. Jack C. Hodgson, Inf., Second Lieut. Herbert E. Huxley, Army, E. H. Joseph, Joseph H. Huxley, Second E. Huxley, David M. Schmitt, Second W. W. Telford, Paul W. White, William E. Wilson, Will W. White, A. B., and Flying Cadets Herbert G. Chapman, Alexander E. Calson, Harry B. Givens, Charles M. Decker, Hiram B. Bloom and Leo B. Murphy.

Advisory received at Brooks Field indicates that the new class will comprise thirty officers and one hundred cadets.

Bliss Is Guided by Radio

For the first time in history an airdrop has been guided from one place to another by means of radio. This was accomplished at Walter Winchell Field, Newark, where Capt. D. H. Murphy, of McCook Field, and Lieut. E. E. Baskind, of the Kelly-Heflinger section of the A. B. Engineering Division, joined the usual command and control in a straight course by means of radio signals.

The device was arranged so that if the balloon went higher than, predetermined a dot and dash was caught in the receiving instrument.

San Antonio A.I.D.

The Air Interceptor Depot at San Antonio during the last half of February has completed and remodeled nine DH4Bs, two J30H4Bs, one TM3B3A, one TM3B3C, eight Liberty 32As, seven Wright A1s, one Wright C, two Wright D2s, and two Wright B3s.

Training Plane Examination

It is the intention of the Chief of Air Service to convene a Board of Officers at Brooks Field, San Antonio, Tex., on or about March 15, 1935, to conduct a test of all available training planes for the purpose of making a definite recommendation as to the type of training plane, or planes to be adopted for the Air Service.

The Board will draw up a schedule of flying tests to be eligible to formulate its recommendation as to the present specification of planes. Among other questions to be considered are the following:

- (a) Whether a side by side or tandem plane is more desirable.
- (b) Whether two types are necessary, namely, a primary plane of low power and a "step-up" of higher power and more versatility.
- (c) What power plant is necessary.
- (d) What possibility of designing a plane to take a low power and a high power engine, thus providing for both conditions mentioned in (b).

All these will be at the risk of the officers of the planes. The Air Service will make an examination, expressed or implied, to produce any plane indicated. Expressions of interest in participation in and from Brooks Field will be borne by the current.

Any manufacturer desiring at this time to build a plane for purposes of the test will be furnished with such engine and instruments available in Air Service stocks as he desires to install in his plane. Facilities at Brooks Field will be made available to all without charge.

Fairfield Depot a Busy Place

During the first few days of February the repair shops at the Fairfield Air Interceptor Depot, Fairfield, Ohio, turned out eight DH4Bs, one DH4B4 (Aircraft), one DH4B4 (Aircraft), and twenty-two Liberty engines.

In addition to their regular work on DH4s, the shops have started the repair of five Martin bombers and have also begun work on a large number of Curtiss planes which will be turned out to National Guard and U. S. C. units during the coming summer training season. The demand for National Guard airplanes will soon be very active.

U. S. NAVAL AVIATION

The ZEP

A Berlin dispatch to the New York Star states that contrary to expectations, out of four Zeppelins the first test trip of the Zeppelin LZ129, which is being built there for the U. S. Navy, cannot possibly be made before the latter part of June, according to statements from the only authorities in a position to know the facts. The effort is to be made in the fact that this date is a big guarantee and should establish the fact that the Zeppelin LZ129 will be in use under its own power before July.

The correspondent also was informed that the United States naval officers in Germany are not a little surprised by what the German papers concerning the "super zeppelin" of the design of the new ship, since tests up to the present have generally been a lot above them superior to other known machines. Until such efficiency as is shown in the design and then in the shape of the American aircraft even test flights.

According to the proposed test trips within a few days will have been the only one of the outposts of the Zeppelin from the German crew, which took the form of prize for Commander Reference's wartime Zeppelin prowess, at the same time being the fact that it is successful in the transatlantic flight this will be his last trip, since the Germans are prevented from building other airships—all of which as part of a general anti-aircraft campaign.



The Symport-Delage special altitude plane, as fitted with floats, which enabled Sud Leconte to raise the world's seaplane altitude record to 5,890 meters.



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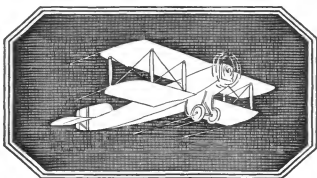
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